

1           1.       A valve assembly for venting pressurized gases generated from  
2 within an enclosed package during a heating of the package, said valve  
3 assembly comprising:

4               a tubular body having an open end and a closed end, said tubular body  
5 defining a recess between said open and closed ends, said closed end having an  
6 aperture for venting the pressurized gases therethrough;

7               a retaining member operative for snap-fit engagement with said tubular  
8 body, said retaining member being spaced from said closed end of said tubular  
9 body; and

10              a membrane element positioned between said closed end of said tubular  
11 body and said retaining member, said membrane element being positioned  
12 along said closed end to maintain a substantially sealed environment within the  
13 packaging, said membrane element being displaceable from said closed end to  
14 allow pressurized gases to pass through said aperture, said membrane element  
15 being formed from cast polypropylene so as to not permanently deform during  
16 heating of the package.

1           2.       The valve assembly as set forth in claim 1, wherein said tubular  
2 body includes a flanged portion defined along said open end thereof.

1           3.       The valve assembly as set forth in claim 2, wherein said tubular  
2 body includes a rim formed along at least a portion of said flanged portion and  
3 operative for snap-fit engagement with said retaining member.

1           4.       The valve assembly as set forth in claim 3, wherein said flanged  
2 portion includes an inside edge, said rim being formed along said inside edge.

1           5.       The valve assembly as set forth in claim 4, wherein said tubular  
2 body is cylindrically shaped.

1           6.     The valve assembly as set forth in claim 5, wherein said flange  
2     portion is annular and extends radially outwardly from said tubular body.

1           7.     The valve assembly as set forth in claim 6, wherein said rim has  
2     a diameter smaller than that of said tubular body.

1           8.     The valve assembly as set forth in claim 4, wherein said recess  
2     includes a depth defined between said inside edge and said closed end of said  
3     tubular body.

1           9.     The valve assembly as set forth in claim 1, wherein said  
2     retaining member has at least one concave edge that facilitates a removal of  
3     said retaining member from said recess.

1           10.    The valve assembly as set forth in claim 1, wherein said closed  
2     end includes a plurality of apertures for venting the pressurized gases  
3     therethrough.

1           11.    The valve assembly as set forth in claim 1, wherein each of said  
2     apertures has a substantially sector shape with a diameter of 1.8 mm and a  
3     length of 2.6 mm.

1           12.    The valve assembly as set forth in claim 1, wherein the retaining  
2     member includes at least one rib extending between opposite sides thereof.

1           13.    A package comprising:  
2           a sealing film having a continuous inner edge defining an aperture;  
3           a valve assembly sealingly secured along said inner edge of said  
4     aperture, said valve assembly having:

5                   a tubular body having an open end and a closed end, said tubular  
6 body defining a recess between said open and closed ends, said closed end  
7 having an aperture for venting the pressurized gases therethrough;  
8                   a retaining member operative for snap-fit engagement with said  
9 tubular body, said retaining member being spaced from said closed end of said  
10 tubular body; and  
11                   a membrane element positioned between said closed end of said  
12 tubular body and said retaining member, said membrane element being  
13 positioned along said closed end to maintain a substantially sealed environment  
14 within the packaging, said membrane element being displaceable from said  
15 closed end to allow pressurized gases to pass through said aperture, said  
16 membrane element being formed from cast polypropylene so as to not  
17 permanently deform during heating of the package.

1           14.    The valve assembly as set forth in claim 13, wherein said  
2 tubular body includes a flanged portion defined along said open end thereof.

1           15.    The valve assembly as set forth in claim 14, wherein said  
2 tubular body includes a rim formed along at least a portion of said flanged  
3 portion and operative for snap-fit engagement with said retaining member.

1           16.    The valve assembly as set forth in claim 15, wherein said  
2 flanged portion includes an inside edge, said rim being formed along said  
3 inside edge.

1           17.    The valve assembly as set forth in claim 16, wherein said  
2 tubular body is cylindrically shaped.

1           18.    The valve assembly as set forth in claim 17, wherein said flange  
2 portion is annular and extends radially outwardly said tubular body.

1           19.    The valve assembly as set forth in claim 18, wherein said rim  
2    has a diameter smaller than that of said tubular body.

1           20.    The valve assembly as set forth in claim 16, wherein said recess  
2    includes a depth defined between said inner edge and said closed end of said  
3    tubular body.

1           21.    The valve assembly as set forth in claim 13, wherein said closed  
2    end includes a plurality of apertures for venting the pressurized gases  
3    therethrough.

1           22.    The valve assembly as set forth in claim 1, wherein said  
2    membrane element is displaced from said closed end in response to pressure  
3    within the package exceeds a pressure ranging between 4-7.5 mbars allowing  
4    pressurized gases to pass through said aperture.